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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/762,460 | 01/23/2004 | Takeshi Watase | 248041US2 | 5461 |

22850 7590 11/30/2006

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EXAMINER

FERGUSON, LAWRENCE D

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1774

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/762,460

Applicant(s)

WATASE ET AL.

Examiner

Lawrence D. Ferguson

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment filed September 13, 2006.
Claims 5 and 23 were amended rendering claims 1-37 pending with claim 37 withdrawn as a non-elected invention.

New Matter - 35 U.S.C. 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 5 and 23 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The phrase, 'thermal radiative coatings has an electrical resistance of 100Ω or less' is not supported by the specification.

Claim Rejections – 35 USC § 103(a)

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirayama et al. (U.S. 6,926,861) in view of Ellis (U.S. 3,999,040).

Hirayama discloses a coated body for a device comprising a substrate sandwiched between heat radiating substrates (coatings) (column 3, lines 9-13 and 33 and column 6, lines 4-8) having conductivity (column 3, lines 4-5) where the thickness of the coating is greater than $1\mu\text{m}$ (column 2, lines 63-65) and has Ni (column 5, lines 62-65). Hirayama does not explicitly disclose the emissivities or blackening agent.

Ellis teaches a coated body for an electronic device, where the coating conventionally comprises carbon black (column 1, lines 26-39 and column 2, lines 63-68) and where the coating composition has an emissivity of 0.968 to 0.988 (column 3, lines 49-55). Hirayama and Ellis are both directed to coated bodies. It would have been obvious to one of ordinary skill in the art to have employed the carbon black and emissivities, as taught in Ellis, in the coatings of Hirayama to improve the radiation efficiency of the electrical device (column 3, lines 49-60). Because the references have a coated body with equivalent materials as the claimed invention, it would have been obvious to one of ordinary skill in the art to include the optimum particle size and mass percentage of the carbon black taught by Ellis. Since Hirayama and Ellis disclose a coated body comprising a substrate sandwiched between thermal radiative coatings having an emissivity of 0.968 to 0.988, it is expected for the combined references to

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satisfy equations 1, 4 and 5. Additionally, because the combined references disclose a coated body comprising the same blackening additive along with the same thickness as claimed, it is expected for the combined references to satisfy equations 2-3 and 6-7.

In claim 1, the phrase, "when the coated body is heated to 100 C" constitutes a 'capable of' limitation and that such a recitation that an element is 'capable of' performing a function is not a positive limitation but only requires the ability to so perform. In claims 14, 15, 18, and 32, 34-36, the phrases, "chromate-free surface treatment," "in the salt spray test for testing corrosion resistance (72 hours) according to JIS-Z-2371," and "in the salt spray test for testing corrosion resistance (120 hours) according to JIS-Z-237" respectively introduces a process limitation to the product claim. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966. Further, process limitations are given no patentable weight in product claims.

Response to Arguments

6. Rejection made under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is withdrawn due to Applicant amending claims 5 and 23. Rejection made under 35 U.S.C. 102(e) as being anticipated by Nakase et al. (U.S. 7,009,284) is withdrawn due to a lack of emissivity values.

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Applicant's arguments regarding rejection made under 35 U.S.C. 102(e) as being anticipated by Hirayama et al. (U.S. 6,926,861) are moot based upon grounds of new rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is 571-272-1522. The examiner can normally be reached on Monday through Friday 9:00 AM – 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



L. Ferguson
Patent Examiner
AU 1774



RENA DYE
SUPERVISORY PATENT EXAMINER

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11/27/07